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ABSTRACT

Suggested are ways to stimulate imagination, creativity, and imagery in children. Recommended for developing imagination are the thinking strategies of breaking away from the usual and commonplace, restructuring familiar elements, and synthesizing elements. Discussed are the production of creative analogies (such as personal, direct, symbolic, and fantasy analogies). The use of figures of speech (such as simile, metaphor, and personification) is seen to foster imagery. Implications of imagery research and creative thinking strategies for teachers are noted. (DB)

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CREATIVE IMAGINATION AND WHAT WE CAN DO TO STIMULATE IT

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INTRODUCTION

Have we not often wondered how beautiful and effective poets have said things about lovers when we stand tongue-tied? How arresting --almost startling--in unexpected relation is the thought of prayer as "reversed thunder" against the Almighty (G. Herbert: Prayer) or of the awesome brilliance of God flaming out like "shining from shook foil" (G. M. Hopkins: God's Grandeur). How scathing is the reference to Sir John Falstaff the degenerage knight of unusual corpulence in Shakespeare's Henry IV as one who lards the ground upon which he walks!

IMAGINATION

Imagination articulate energizes and metamorphoses reality into dreams and dreams into reality, and by whose logic we turn away from the "soft fetters of easy imitation to soar in the regions of liberty" (Young, 1759). Coleridge regarded imagination as the most vital activity of the mind, infinite and eternal, and Blake saw it as a source of energy in whose exercise is experienced in some way the activity of God.

Bowra (1958) in writing about the romantic imagination observed the imagination to be an agent of illumination in the creative problem solving process; and in more recent times rich strikes appear to have been made in attempts that operationalize the imagination as functional steps of the creative problem solving process (e.g. Osborn, 1965; Parnes, 1967). To this may be added the contributions like the Purdue Creativity Program (Feldhusen, Treffinger & Bahlke, 1970), New Directions in Creativity

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(Renzulli & Callahan, 1973), and the Total Creativity Program for Elementary School Teachers (Williams, 1971) that root the activity of the creative imagination to the Structure of Intellect Model (Guilford, 1967). Torrance's paper (1972) in summarizing ways that have been used to teach children to think creatively not only focuses our attention on both these approaches but also on the use of curricular materials, classroom climate and educational media, and provides as well a very useful source of information.

My contributions have focused on several dimensions of imaginative functioning, namely, encouraging people to think in creative ways aided by their understanding and exercise in the use of a number of creative thinking strategies, the role of creative levels and the amount of time given to be productive, creative analogies and imagery, and physiological and other correlates of imagery.

ENCOURAGING THE USE OF THE IMAGINATION

I have worked with a number of creative thinking strategies that I have found to be very useful in encouraging children to use their imagination and think in productive ways (e.g. Khatena, 1971, 1973) namely, breaking away from the usual and commonplace, restructuring, and synthesis. Let me share with you some of the approaches I took using these strategies with children.

Breaking Away from the Usual and Commonplace

The thinking strategy breaking away from the usual and commonplace or what is sometimes known as perceptual set can be illustrated by presenting the child with a square followed by two drawings, namely, a window and a clock, and he can be told that if he used the square to make these drawings then he would be doing things the way he always did. However, if he drew a large enough circle around the square to say make a bubble with a highlight he would be using his imagination to

get away from older habits of thought. You can then give him a work-sheet containing 4 rows of 3 squares each and encourage him to draw interesting and unusual pictures using the square. You will be amazed to see him producing all kinds of interesting pictures from say ear-phones to Martians in Mexico. All along, show you appreciate his attempts, and if he really moves away from drawing objects like window or door which are dependent on angular constructions do not forget to praise him.

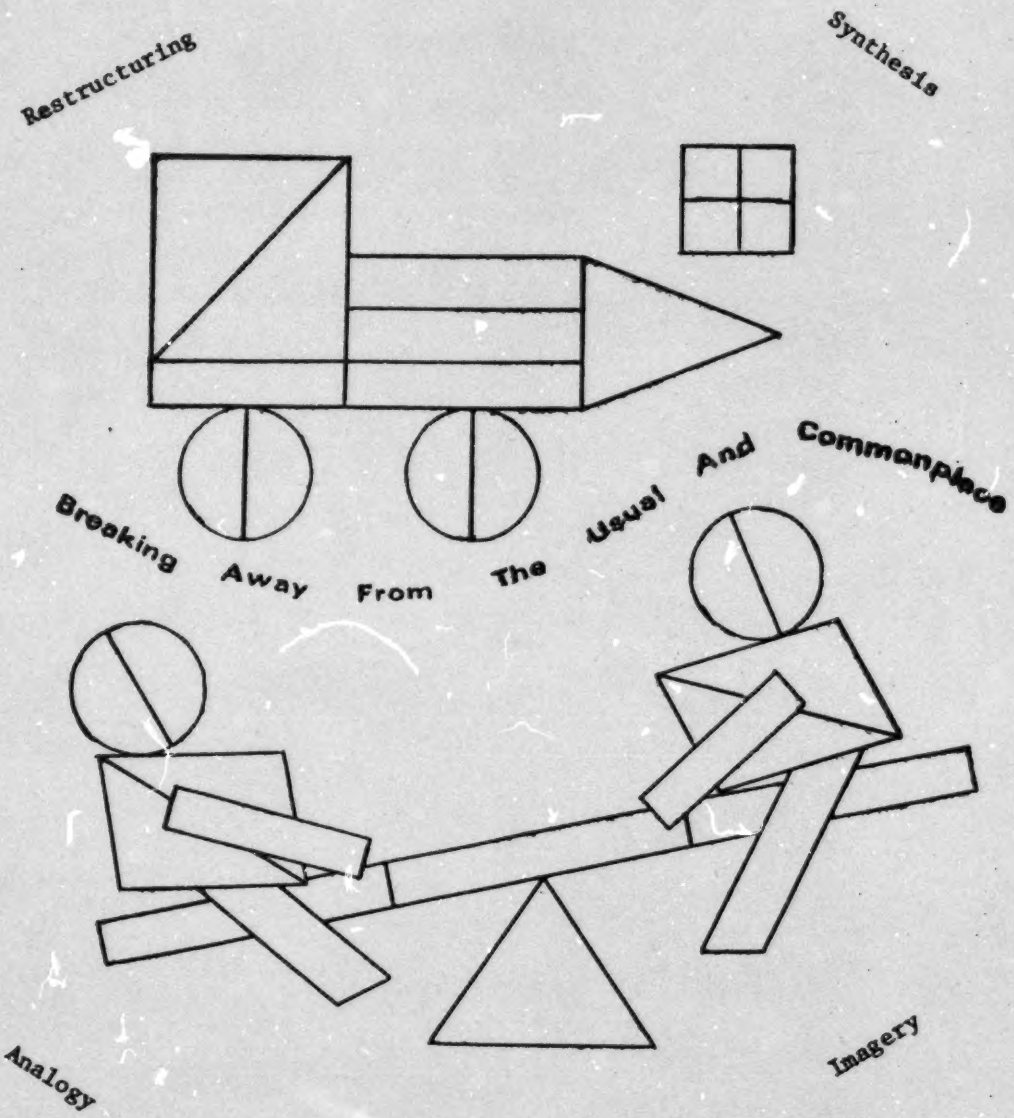
As another example, you may give the child the word "roar" with instructions to be imaginative in responding to it. If the child produces responses like "to talk noisly" or "the sound a lion makes" you may regard these as commonplace whereas a response like "blood gushing out of a wound" is imaginative and shows creative strength and may be regarded as such. Illustrate what you want done and follow it with practice exercises that show the imagination at work. Do not forget to give the child appropriate positive feedback relative to imaginative responses.

Restructuring

The second thinking strategy restructuring is another way we can use to encourage creative thinking. We are often faced with something whose parts are put together or structured in a certain way to give it an identity. If we are able to pull apart these elements and recombine them or restructure them in a different way we are very likely to come up with something having a new or original identity. It really needs creative energy to free oneself from the bonds of the old oder for the purpose of bringing about a new order.

To teach your child to use this strategy you may start with constructing an 8 x 12 inch flannel-board and make cut-outs of say three geometrical shapes such that you have 10 of each kind. I have preferred the semi-circle, triangle and rectangle. If you like to use

CREATIVE IMAGINATION



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these shapes make circles one inch in diameter and squares that have sides one inch long. By cutting the circles into two you will get semi-circles, and by cutting the square into four equal parts you will have rectangles; in addition you can make two right angled triangles by cutting across the diagonal of a square. These shapes are relatively versatile and allow for all kinds of manipulations and combinations. When you have all these pieces cut, put them in a little plastic bag or envelope ready for use. You should make two sets so that you can freely work with your child on the materials.

Now that these pieces are ready and the flannel-board prepared give them to your child. Tell him that you are going to construct a figure on the flannel-board and get him to watch what you do. You may begin by constructing a human figure: a triangle for a hat, two semi-circles for the face, two triangles for the body, two rectangles for the arms and two more for the legs, and two semi-circles for the feet. All this requires the use of 3 triangles, 4 semi-circles and 4 rectangles making a total of 11 pieces. Get your child to do the same giving him whatever help he may need at the time. Then pull apart the pieces you used to make the human figure and reconstruct them into an automobile making sure that only the same eleven pieces are used. The 4 semi-circles can now serve as the two wheels. Place one rectangle on one wheel and a second rectangle on the other such that the long sides of the two rectangles are on the wheels and short sides are side by side. Then place two triangles in the shape of a square upon the rectangles on the rear wheel, and the remaining two rectangles upon the one that was first placed on the front wheel. Finally put the remaining triangle against the short sides of the three rectangles above the front wheel such that its base is against them and the apex of the triangle is pointing forward. The car is now ready. Let your child do the same and once

again help him build the car. When he has done this, tell him to pull apart the same 11 parts of the automobile and rearrange or restructure them into another object. Ofcourse with a little practice you will see him producing scenes as well. Your child may try to persuade you to allow him to use some of the pieces in the bag but do not let him. Encourage him to use his imagination and work within the restrictions of the strategy.

Restructuring can also be used to encourage your child to be more creative with words. For instance, you can show him a picture of the Three Wise Men of Gotham and encourage him to ask questions about it which cannot be answered by merely looking at the picture, guess why events in the scene are taking place, and the consequences of these events, as warm-up activities. This may then be followed by getting him to restructure three elements of the picture, namely, the three wise men, the bowl, and the sea, into an unusual and interesting story.

Synthesis

A third strategy called synthesis can also be taught to your child. Unlike restructuring, the act of synthesis provides more freedom of manipulation and expression. This time your child may be allowed to use all 30 elements or pieces that are in the bag. He may use as many of the shapes as he likes to produce new and interesting pictures on the same flannel-board. You can begin by demonstrating how the pieces can be combined to make a scene of say two boys on a sea-saw. Give him a chance to do the same and encourage him to make as many of his own pictures as he can such that each time he will remember to use his imagination to produce the new and unusual. All along encourage and praise him for self-initiated and interesting and unusual combinations.

You may help him use his imagination still further by encouraging him to talk about the characters and scenes he makes. You may even encourage him to tell a story about them, and if it helps the development of his narrative then suggest or allow him to change details of the scene he has before him.

Synthesis can also be use to encourage children to be imaginative with words in this way as well. For example, you can show your child a picture of say the nursery rhyme Dr. Foster went to Gloster and get him to tell you something about it such that he will ask questions, guess causes and consequences in much the same way that was described for restructuring, all of which require the use of the imagination. A second picture can then be shown say of Tommy Tucker Singing for his Supper with similar warm-up activities. He can then be asked to tell a story using a combination of the characters and situations in both pictures with encouragement to use his imagination to make his story unusual and interesting.

CREATIVE IMAGINATION ANALOGY AND IMAGERY

To move on to the creative imagination and its analogy and imagery correlates let us note an interesting paper by Jenson (1975) which points to the great value of metaphorical thinking in the problem solving process giving many examples of metaphors which we use in our daily lives. Schaefer's paper (1975) on the measurement of metaphorical thinking emphasizes the unique value of metaphor to the creative thinking process which the Synectics group uses as a potent approach to creatively solve problems (Gordon, 1961) and which has been more recently applied to stimulate creative writing of children and adolescents (Synectics, 1968).

My work in the area of creative analogy has provided some empirical evidence to the analogy mechanisms used with the Synectics system of creative problem solving and to some extent extended their use (Khatena, 1973,

1975ab). It seems appropriate at this juncture to say something about the nature of analogy and imagery, and the steps that can be taken to encourage their production.

Production of Creative Analogies

We use words with their objective meanings and emotional connotations to convey to others our ideas, feelings and perceptions about the world. Often we find ourselves trying to communicate thoughts, feelings or experiences that do not lend themselves to easy expression: we cannot explain or describe what we have in mind; so we search for some familiar situation to which our thought-feeling complex can be related--a process of making the strange familiar; sometimes by reversing this process whereby we make the familiar strange we allow ourselves insights into relations hitherto concealed to us. Both these mechanisms are operations involved in the making of creative analogies and have been presented to us in the Synectics approach to creative problem solving (Gordon, 1961). Synectics distinguishes four kinds of analogies: personal analogy, direct analogy, fantasy analogy and symbolic analogy.

Personal Analogy

In personal analogy a relationship is found between yourself and some other phenomena with which you and others are familiar. Suppose you want others to know how thin you are without having to give a lengthy description, you may say "I'm as thin as a stick." Or suppose you want to tell someone that you are happy, you may say "I'm as happy as a lark."

Direct Analogy

Just like personal analogy, direct analogy finds a relationship between two unlike phenomena but without self-involvement. To produce a direct analogy, the "I" of the comparison above may become "he" or "John" to read "John is as thin as a stick." Another direct analogy relative to being fat could be "John is as fat as a pig." And if the activity is focused on his eating habits the analogy may be "John eats as a pig."

Symbolic Analogy

This form of the analogy uses symbol where we try to find a "sign" for a phenomenon we wish to describe that has many related characteristics. For instance, if we come across someone who is dependendable, strong, stable, consistent, and so no, and we wish to convey this information about him effectively without having to use too many words, we look around for some phenomenon, animate or inanimate which has as nearly as possible these qualities. For example, the "Rock of Gibraltar"has been traditionally known to have such qualities. The "Rock" then can be used as a "sign" or "symbol" of the qualities possessed by the person in mind. We may then refer to him using symbolic analogy as "He is the Gibraltar of my life" or "John is as firm as The Rock."

Fantasy Analogy

In fantasy analogy, the comparison object or subject at least must be imaginary. Myths, legends, allegories, fairy tales and the like are all rich sources of imaginary materials for comparison as for instance,the Devil, Medusa, Pandora's Box, Ariel, the Rainbow, the Dragon, the Garden of Eden, Paradise, Sugar Candy Mountain, Jekyel and Hyde, and so on. Let us say you wish to convey the information that someone we know is very wicked, evil and murderous. We may compare such a person to Hyde like "John is Hyde himself" or like "Leonora's whispers stirred the Hyde in John."

IMAGERY

Imagery can be described as images or mental pictures that have organized themselves into some kind of pattern. One thing it does is to make some sense of the world around for the person making images. He is very much like the artist in the act of creating the world the way he sees it: in the canvas of his mind appear images as he reacts to the world he sees and like the artist in the act of painting a

picture, he gives organization and meaning to these images. How he depicts his world, what details he includes, the choices he makes of colors, the style he chooses, and the extent to which he allows his emotions to become involved are all dependent upon the emotional-intellectual make-up of the man and the creative energizing forces at work at the time.

I have used analogy to explain imagery which has been compared to a painting where a person's mind is the canvas on which is patterned his perceptions of the world. I may have just compared imagery to a painting and stopped there with no attempt to elaborate. Instead, I went on to add further details to the basic comparison where the individual is an artist and his mind the canvas, and by extending or elaborating the comparison, I have combined the images to make a more complex image pattern. To put it in another way "Imagery is like a painting" is a simple image pattern whereas "Imagery is a painting on the canvas of Man's mind" is a complex image pattern. Simple and complex image patterns can be used in the act of comparison. The more highly imaginative among us tend to use more complex images. Whether we create personal, direct, symbolic or fantasy analogies we use imagery. More often than not analogies with complex image patterns tend to be more interesting and provocative than simple image patterns as for instance "John sings like a crow," when compared to "John sings like a featherless crow on a winter's day."

FIGURES OF SPEECH AS ANALOGY MODES

In the making of analogies we may use any one of several well known figures of speech based on agreement, similarity, or resemblance such as the simile, metaphor, personification, and allusion.

A <u>simile</u> is a form of comparison between two things that are different except in one particular characteristic to which you want to call attention like "John is as <u>fat</u> as a pig" where John and pig are different in kind

and yet possess one characteristic in common, namely, being fat. By focusing attention on John's corpulence in this way we effectively describe fat John without lengthy description.

The metaphor is a condensed or implied simile. A comparison using this form attempts to relate two things differing in kind as if they were both similar or even identical, like saying "John is a pig." Here John is identified with the pig and with the implication that he does not only resemble the pig by being fat but also by possessing other pigish qualities. Thus by calling John a pig we are suggesting that John is not only fat but also greedy, filthy, stinking and so on.

Personification is a form of comparison which attempts to give lifeless objects or abstract things attributes of life and feeling. One well known example is "Time marches on" in which Time is given attributes of a human being moving forward on foot to indicate the steady passing of time. A variation of this, for instance, "With leaden foot Time creeps along" greatly slows down the pace while still retaining the inevitable forward movement.

Allusion is yet another form of comparison which makes use of familiar phenomena in literature, mythology, legend, present day happenings and so on. To explain or describe something without having to say much we can often relate this something to something else that is well known as for example the biblical allusion "She proved to be a good Samaritan" or the literary allusion "David is the Falstaff of our company."

FIGURES OF SPEECH IN ANALOGIES

Each of the four figures of speech descibed above can be used as comparison forms in the four kinds of analogies. The simile "John is as fat as a pig" or the metaphor "John is a pig" are both direct analogies. As you know if we wish to use the simile or metaphor in

the form of personal analogy for instance, we will need to involve ourselves in the comparison like "I'm fat as a pig" or "I'm a pig."

We can use personification in personal analogy and direct analogy as for instance, "I walked with death in Vietnam" or "Death took her for his bride."

Allusion may also be used in the personal analogy. "I turned him to stone with my glassy stare" or "The bad news struck him down with the force of Jove's thunderbolt" are examples of allusion in the direct analogy form: the first allusion refers to the head of Medusa and the second to the destructive energy of the king of the Greek gods. When I discussed symbolic analogy I illustrated it by giving comparisons in the form of simile and metaphor. You will recall the "Rock" being used as the symbol of dependability, strength, stability and consistency with the simile "He is as firm as The Rock" and the metaphor "He is the Gibraltar of my life." If we wish to use the allusion of <u>corner stone</u> (with St. Peter in mind) as the comparison figure, then by saying "John is the corner stone of our diplomacy in the Far East" we not only imply that he has the qualities of dependability, strength, stability and consistency but also that he is the most important single building element upon which we expect to maintain the superstructure of our diplomacy.

We can go on to see that the same figures can be used to great effect in fantasy analogy. For instance, "jealousy" has been described in <u>Othello</u> as the "green-eyed monster." In simile form the comparison may read as "His jealousy like the green-eyed monster will devour him," and in metaphor form "Beware of jealousy the green-eyed monster that destroys everything in its path."

OTHER VARIABLES ASSOCIATED WITH THE CREATIVE IMAGINATION

My explorations of imagination have also involved the study of children, adolescents and adults as they were encouraged to produce original verbal images under conditions of stress as well as the role of age and creative level in the production of original verbal images and analogies. A summary of these studies and their findings can be found in two recent papers (Khatena, 1973, 1975b). They offer clues about the operation of the imagination that can be helpful to those involved in encouraging its expression.

When highly creative children between the ages of 9 and 11 years are encouraged to use their imagination in situations which lead to creative expression they will function best if they were given a reasonable amount of time for the purpose with a time deadline to meet; however, highly creative adolescents between the ages of 12 and 15 years in similar situations seem to work best if time deadlines set were flexible. To this may be added the advantage of having a brief warm-up period for sensitizing their imagination prior to their exposure to planned creative activities and expression. Since children in grades 4 to 6 or when they are 9 to 11 years old, and adolescents in the 10th grade or when they are about 15 years old seem to find it much harder to use their imagination we ought to give special attention to their problems and and help them overcome some of their inhibitions that prevent their use of imaginative activity and provide them more frequent opportunity for creative behavior. On the matter of training children and adolescents to use their imagination to think in productive ways you can do this regardless of their creative level. Relative to analogy production, children and adolescents tend to produce direct analogies with simple image structure most frequently, to show low self-involvement by producing

relatively very few personal analogies, and for the most part do not seem intellectually ready to produce symbolic analogies. This suggests that we teach and encourage them to use their imagination to create more personal and fantasy analogies that have both simple and complex image structures.

TENTATIVE CLUES FROM ON-GOING IMAGERY RESEARCH

Some of my very recent research on imagery, its vividness and physiological correlates may give us some further leads to more effectively plan educational experiences towards creative behavior, but I offer them now as very tentative for the classroom, and more for the purpose of making you aware of yet other fruitful dimensions of imagination and imagery that you may be able to tap on in the near future.

One study (1975c) exploring the relationship between vividness of imagery control and creative self-perceptions found that college adults who perceive themselves as highly creative are more likely to have images that are autonomous. A second study (Khatena, 1975d) with college adults investigating the relationship between creative self-perceptions and vividness of imagery production found significant relationship between creative self-perceptions and vividness of imagery as related to the senses of seeing, hearing and touching. This was followed by a third study (Khatena, 1975e) which explored as one of its hypotheses the use that college men and women identified as high moderate and low originals make of the visual, auditory, cutaneous, kinesthetic, gustatory, olfactory and organic sense modalities in their production of original verbal images. Generally, it was found that the visual and auditory senses or the visual-auditory senses combined, and the other sense modalities combined have important relationships with verbal processes as they relate to the imagination, and may have positive implications for learning.

SOME IMPLICATIONS FOR THE TEACHER

I have tried to say something about the imagination and encouraging its expression through the use of creative thinking strategies, analogy, figurative language and imagery, and a few variables associated with the proper function of the creative imagination. In addition, some tentative clues from on-going imagery research were also offered. Let us seem what are some of the things you can do or you need to bear in mind in order to encourage children and adolescents to use their imagination more fully and so enhance their creative development.

Firstly, you can set the imagination to work by encouraging the use of the creative thinking strategies I talked about in all kinds of classroom situations especially as they relate to the learning of reading, mathematics, art and music.

Secondly, you can teach them to use different kinds of analogies and image complexities prior to creative expression in language programs so as to maximize the quality of imaginative expression.

Thirdly, bear in mind that your students will need their imagination activated prior to creative writing assignments like the imaginative essay, short story, poem and the like.

Fourthly, deadlines for the completion of assignments requiring the use of the imagination may have to depend upon both the creative and age levels of students such that high creative elementary school children may need to be given moderate time deadlines to complete their work while time restrictions given to adolescents for completing imaginative work may have to be more flexible. Fifthly, adolescents and children can be taught to use their imagination in preparation for productive work and reinforced for their productivity.

Sixthly, remedial measures need to be taken to alleviate the slumps in the function of the imagination and its verbal productivity correlates

in the upper elementary school and tenth grade.

CONCLUSION

In conclusion let me reiterate the importance of providing many opportunities for your children to think creatively. Teach them the wonders and mysteries that can follow the use of the imagination. Enthuse them to discover the excitingly new and show them how they can transform the familiar into the wonders of production. You can make such a difference to children. Do you not recall the pain and boredom of school with its busy work, mechanical learning, lack of direction, doses of courses and meaningless credit hours? How often are the same conditions perpetuated! I know that you are faced with a task which is difficult as it is rewarding, but it is your privilege to unlock their creative potential to its fullest realization.

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